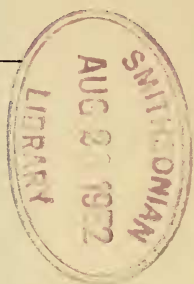


PROCEEDINGS
OF THE
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FOUR NEW CHORDEUMOID MILLIPEDES FROM THE
UNITED STATES

(Nematophora, Chordeumoidea)

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The inclusion of the family Striariidae in the suborder Chordeumoidea in this paper is a departure from the general practice of regarding it as forming the suborder Striaroidea, on an equal footing with the suborders Chordeumoidea and Lysiopetaloidea (Cook 1896, 1899). The family's most striking characteristics—the hood-like first tergite, the broad anal tergite, and the greatly depressed keels—are adaptations for close coiling that have appeared independently in other groups of millipeds, for example, in the order Oniscomorpha and in the family Oniscodesmidae of the order Polydesmoidea. These characters are therefore not of an essential nature and their presence in the Striariidae does not warrant the establishment of a rank as high as a suborder. The labral spines, which Cook believed to be of great taxonomic importance also, have been reduced in value to specific characters since the discovery (Loomis 1936) that in at least one species, and possibly another, the spines are absent. Of greater importance in the Striariidae than any of the characters mentioned above, are the presence of six setae on each tergite, the absence of repugnatorial pores, and the posterior gonopods composed of two articles; the first two of these essential characters are found in all families of the Chordeumoidea and the last in several families. Their presence in the Striariidae justifies the position taken here. Any scheme of grouping that separates the Striariidae from the Chordeumoidea will defeat the major purpose of classification, namely, to place together like objects and to separate unlike objects.

The holotypes of the new species of *Striaria* and *Conotyla* are in the collection of the Illinois Natural History Survey, Urbana, Illinois; and those of *Ozarkogona* and *Caseya* are in the United States National Museum. Paratypes are in the author's collection.

Order Nematophora

Suborder Chordeumoidea

Family Striariidae

Striaria antica, n. sp.

Figs. 1-3

Near *S. columbiana* Cook 1899 in the details of the gonopods; distinguished from that species by the anteriorly directed labral spines.

Male holotype.—Color brown; body cylindrical, although the dorsum is somewhat depressed on the first few segments; no setae observed. Head with 4 or 5 ocelli on each side; labrum (Fig. 1) with anterior margin less convex between the medial teeth and the lateral spines than in *columbiana*; spines directed in front of head, not sharply bent mesiad as in *columbiana*.

Crests coarse and well elevated; surface of metazonites other than crests coarsely granular; prozonites very finely and evenly granular. Collum with 10 crests; segments 2 through 29 each with 12 dorsal and lateral crests; anal segment, which is without crests, terminates in three evenly rounded lobes, the medial of which is slightly longer and wider than the lateral two; the sinuses between the lobes are acute. The usual anteriorly projecting crests near the ventral margin of the metazonites begin on segment 4 and continue through 27, becoming smaller caudad.

Pregenital legs typical of the eastern species of the genus. No pits were observed on the caudal surface of the coxae of the second legs; instead there was a small rectangular lobe on the sternum adjacent to the surface of each second coxa. Coxites of third legs as long as the third segments of those legs. First and third segments of legs 4 through 7 moderately swollen ventrad; third and fourth segments of seventh legs more swollen.

In situ the anterior gonopods are parallel, contiguous, and directed slightly caudad. Each one consists of three pieces (Fig. 2), of which one is lateral and two are medial. The lateral piece is simple, quadrate, shield-like, and shorter than the other two. The antero-medial piece is the one figured by Cook as "the apical portion of the copulatory legs;" its apex is divided into about 10-finger-like pieces; the shaft has the usual several horizontal striae. A portion of the apex of the postero-medial piece is finely pubescent and a stout spine is directed laterad from the apex.

The posterior gonopods, the second pair of appendages on the seventh segment, consist of the usual two segments (Fig. 3), with the second one finely pubescent on the ventral surface.

Length 12 mm., *width* 1.1 mm.

Locality.—Turkey Run State Park, Montgomery County, Indiana; 2 males, M. W. Sanderson, Nov. 4, 1945, from ground cover.

Family Conotylidae

Conotyla pectinata, n. sp.

Figs. 4, 5

Similar to the sympatric species *C. specus* Loomis 1939, from which it can be distinguished by the larger size, fewer ocelli, pectinate processes on the gonopods, and the specialization of the pregenital legs.

Male holotype.—Color in preservative horn brown. Ocelli 12 on one side, 13 on the other, in a triangular patch. Antennae as in *C. atrolineata* Cook and Collins 1895. Gnathochilarium without promentum. Segments with distinct humeral swellings, but there are no projecting keels. Segmental setae short and inconspicuous. Prozonites granular, metazonites shining, smooth.

First legs unspecialized. Coxae of legs 2, 3, and 4 unspecialized; the remainder of those legs lost from the type specimen. Segment 3 of fifth legs with a pyramidal lobe on the distal margin. Segments 3 and 4 of sixth legs with low, cylindrical lobes on the proximal region, the distal surfaces of the lobes and the coxae finely spinose. Proximal ventral region of segment 3 of seventh legs with a cylindrical lobe. Tenth legs unmodified except for the usual gland opening in the coxae, from which large mucous plugs protrude. Segment 3 of eleventh legs with a pyramidal lobe on the proximal caudal surface; no gland openings observed in the coxae.

In situ the gonopods resemble those of *specus*; the ventral branches are simple, longer than in *specus*, of almost uniform width throughout their length, with the ends slightly expanded and reaching just beyond the coxae of the eleventh legs. The ventral branches are pectinate along their dorsal surfaces (Fig. 4), while the dorsal branches are either very short or they were broken off near the base.

The posterior gonopods (Fig. 5), or ninth legs, are typical of the genus. Each one consists of two enlarged segments, with the basal one lobed and finely spinose mesiad. The sternum is lamellate and pectinate as shown in the figure.

Width 1.3 mm.

Locality.—Smith Park, Mt. Carroll, Carroll County, Illinois; 1 male, H. H. Ross and M. W. Sanderson, Dec. 6, 1945. Several specimens of *C. specus* were in the same collection.

Family Caseyidae

Caseya similis, n. sp.

Figs. 6, 7

Easily distinguished from *C. heteropus* Cook and Collins 1895 by the attenuated apices of the ventral branches of the anterior gonopods and the details of the coxites of the posterior gonopods. Unfortunately, specific comparisons with *C. sequoia* Chamberlin 1941 and *C. dynotypa* Chamberlin 1947, which were described from females and immature males, cannot be made.

Male holotype.—Color in alcohol dark brown, each segment with several light spots. Eyes triangular, ocelli in rows of 6, 6, 5, 4, 2. Striations and locations of setae typical of the genus. Legs as described for *heteropus* except that the coxae of the sixth have fewer setae.

Each anterior gonopod appears to be composed of three longitudinal pieces, with the lateral piece surpassing the others and partly enclosing them ventrad and laterad (Fig. 6). *In situ*, ventral view, the mesial margins are parallel and almost contiguous for about two-thirds of their length, while the distal one-third is attenuated and directed caudo-laterad. The apices rest on the coxae of the tenth legs.

The posterior gonopods, or ninth legs, are similar to those of *heteropus*

in the large, globular, sparsely setose terminal segment, but they differ in the details of the coxites. The apex of each coxite is bifid; the lateral branch is a thin lamella and the mesial branch is heavier and beak-like, as shown in figure 7.

Width 1.7 mm.

Locality.—Telachapi Pass, Clear Creek, Kern County, California; 1 male, O. F. Cook, Feb. 15, 1929.

Family Cleidogonidae

Ozarkogona ladymani, n. sp.

Figs. 8, 9

Similar in size, pattern, and coloration to the genotype, *O. glebosa* Causey 1951; distinguished from that species by the simpler lobes on the basal segment of the posterior gonopods and the less attenuated ventral branches of the anterior gonopods.

Male holotype.—Brown above; lateral buff and brown longitudinal bands; buff below; distal half of legs brown. Eyes black, triangular, the ocelli arranged in rows of 1, 7, 6, 5, 4, 2, 1. Tenth and eleventh legs as in *glebosa*.

Each anterior gonopod consists of a dorsal clavate branch, a short, wide lateral piece, and a ventral branch, of which the dorsal margin is very finely serrated (Fig. 8). The ventral branches are separated at their bases, then contiguous at about the middle of their length, then turn obliquely laterad and dorsad; the ends are rounded and flattened vertically.

The posterior gonopods, or ninth legs (Fig. 9), are composed of four segments, of which the first is thickened, elongated, and lobate; the telopodite, which is composed of segments 2 through 4, is moderately reduced. The second segment is characteristically elongated; the third and fourth are shortened, and the terminal claw is short. The lobes on the basal segment, of which there are two on the cephalic surface and one on the medial surface, are in the same relative position as the lobes in *glebosa*, but those on the cephalic surface are smaller and simpler than in the genotype. The third segment is brown, the fourth, second, and distal one-third of the basal segment and the sternal peg are light brown; cream otherwise. A transverse division of the fourth segment is weakly indicated. *In situ* the telopodites are easily visible against the pleurites of the sixth and seventh body segments; the heads of the clavate branches of the anterior gonopods pass between the sternal peg and the medial lobes of the posterior gonopods, and the ends of the ventral branches rest on the caudal surface of the medial lobes.

Width 1.5 mm.

Type locality.—Rector, Clay County, Arkansas; 2 males, 3 females; George H. Ladyman; March 9, 1952.

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Explanation of Figures

Striaria antica, n. sp., male paratype.

Fig. 1. Labrum, dorsal view.

Fig. 2. Right anterior gonopod, lateral view.

Fig. 3. Right posterior gonopod, cephalic view.

Conotyia pectinata, n. sp., male holotype.

Fig. 4. Right anterior gonopod, lateral view.

Fig. 5. Left posterior gonopod, cephalic view.

Caseya similis, n. sp., male holotype.

Fig. 6. Right anterior gonopod, lateral view.

Fig. 7. Right posterior gonopod, medial view.

Ozakogona ladymani, n. sp., male paratype.

Fig. 8. Right anterior gonopod, lateral view.

Fig. 9. Left posterior gonopod, cephalic view.

All figures are drawn to the same scale except figure 2, which is one-half larger.

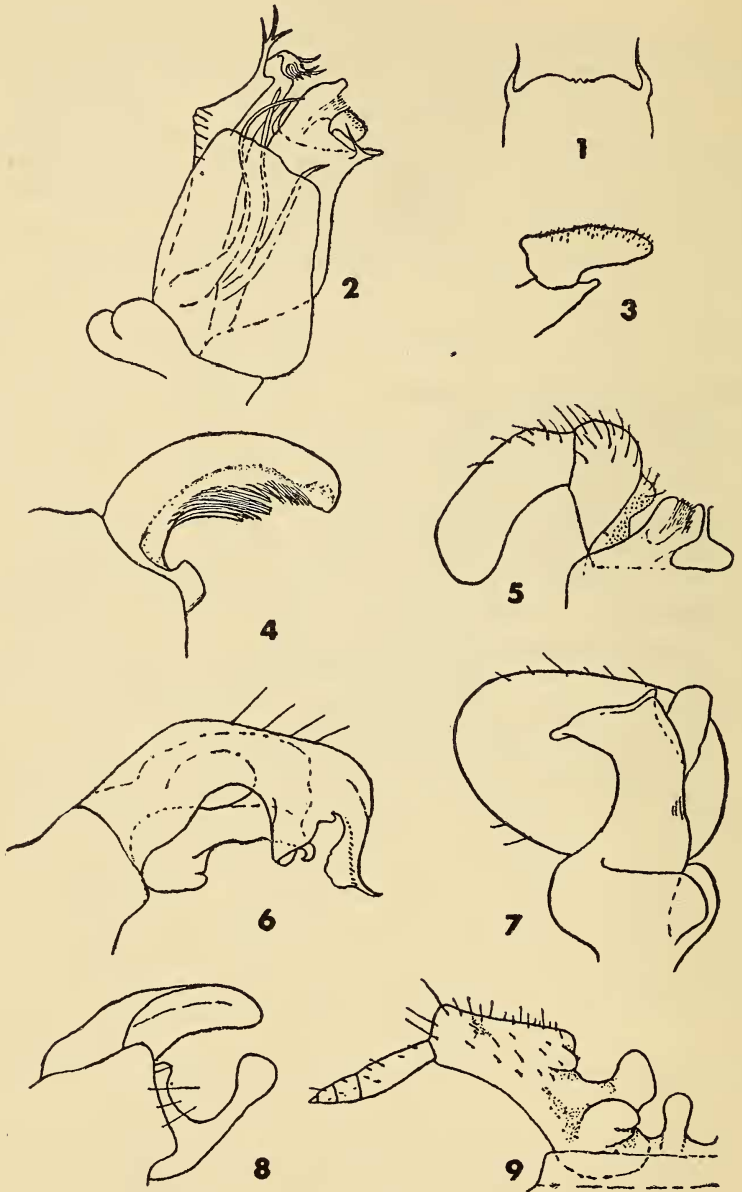


Plate VII